BONDED PREFORMED JOINT SEAL
Effective: July 12, 1994
Revised: January 1, 2002

Description. This work shall consist of preparing the joint opening faces and furnishing and installing a bonded preformed joint seal with the necessary bonding epoxy into bridge joints.

Materials. The material quality of bonded preformed joint seal shall be according to the physical requirements of Table 1 of AASHTO M 220 with the following exceptions: compression set shall not be over 40 percent when tested according to Method B (Modified) of ASTM D 395 after 70 hours at 100 ºC (212 ºF). The Compression-Deflection requirement will not apply to the bonded preformed joint seal.

The adhesive used to bond the joint sealer shall be supplied by the manufacturer of the bonded preformed joint seal and shall meet the following requirements:

> The adhesive shall be epoxy base, dual component, which resists salt, diluted acids, alkalis, solvents, greases, oils, moisture, sunlight and weathering. Temperatures up to 93 ºC (200 ºF) shall not reduce bond strength. At 20 ºC (68 ºF), the bond strength shall be a minimum of 6.9 MPa (1000 psi) within 24 hours.

Pot Life; min.	40 minutes @ 20 ºC (68 ºF)
Tensile Strength; min.	28 MPa (4000 psi)
Solids Hardness; max.	5 mohs
Flash Point; min.	93 ºC (200 ºF)
Axial Compression; min.	60 MPa (8760 psi)
Complete Cure; max.	7 days @ 20 ºC (68 ºF)
Concrete Bond Strength; min.	28 MPa (4000 psi)
Steel Bond Strength; min.	28 MPa (4000 psi)

Any primers or cleaning solutions used on the faces of the joint or on the profile of the sides of the bonded preformed joint seal shall be supplied by the manufacturer of the bonded preformed joint seal. Any additional installation materials and adhesive for splicing joint sections, shall be as supplied by the manufacturer of the bonded preformed joint seal.

Construction Requirements

Installation. The inside surfaces of the joint opening shall be roughened by sand blasting to bare white metal on a metal walled joint or to clean elastomeric polymer concrete on a elastomeric polymer concrete walled joint. The depth of roughening of the joint shall equal the depth of the bonded portion of the preformed joint material. After roughening, the joint shall be cleaned with compressed air. The compressed air shall be according to the cleanliness requirements of ASTM D 4285. The bonded preformed joint seal shall be wiped with a primer that promotes adhesion when recommended by the joint manufacturer. The epoxy adhesive shall then be applied, both to the inner walls of the joint, and to the exterior surfaces of the joint seal. Immediately after blow down, the primer and adhesive shall be applied in the amounts

recommended by the joint manufacturer. Maximum application lengths of joints for a kilogram (pound) of epoxy shall be supplied by the joint seal manufacturer.

The joint seal with epoxy shall be inserted into the joint and held tightly against both sides of the joint until sufficient bond strength has been developed to resist the expected expansion forces. The seal shall be placed so the top of the seal is approximately 3 mm (1/8 in.) recessed.

Bonded preformed joint seals shall not be installed when temperatures below 10 ºC (50 ºF) are predicted within a 48 hour period.

Method of Measurement. The bonded preformed joint seal will be measured in place, in meters (feet) along the centerline of the joint.

Basis of Payment. This work will be paid for at the contract unit price per meter (foot) for BONDED PREFORMED JOINT SEAL, of the size specified.